THE

VETERINARY JOURNAL

Editor:

FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.,
HONORARY VETERINARY SURGEON TO HIS MAJESTY THE KING.
OFFICIER DU MÉRITE AGRICOLE (FRANCE).
CAVALIERE DEI S. S. MAURIZIO E LAZZARO (ITALY).
HONORARY MEMBER OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION,
AND FORMERLY PROFESSOR IN THE ROYAL VETERINARY COLLEGE, LONDON.

Sub-Editor:

GLADSTONE MAYALL, M.R.C.V.S.

MAY, 1923.

Editorials

H.R.H. THE PRINCE OF WALES AN HONORARY ASSOCIATE R.C.V.S.

THE Veterinary profession will welcome the gracious act of H.R.H. the Prince of Wales in accepting the Honorary Associateship of the Royal College of Veterinary Surgeons, and it is characteristic of his sporting nature that he has wished merely to be presented with the ordinary diploma which is indited in the usual form for all eminent Honorary Associates.

The list includes the names of those who have become famous in Veterinary Science in all countries of the world, and these distinguished foreigners will equally appreciate the honour done to the British Veterinary Profession by the Prince. His love of straight sport and his marked fondness for good horses has for a long time endeared him to all Englishmen, and by no means least to the veterinary world; whilst the recent little steeplechase incident, wherein his first thought was for his horse in distress and his last thought for himself, has marked him down in a practical sense as a true lover of dumb animals.

That he may escape accidents, and long be spared to carry out the arduous duties which appertain to his exalted position, is the earnest wish of all to whom he has now allowed the privilege of being able to consider him a veterinary colleague.

A SERUM CURE FOR GLANDERS. THE VALUE OF COMPARATIVE WORK. A VETERINARY TRIUMPH.

In another column we publish details, taken from the *Canadian Veterinary Record*, of two cases of glanders in man definitely cured by the injection of serum taken from the blood of a horse immunised against glanders; and by no means the least important factor to us as a profession is that the suggestion came from members of the veterinary world. Captain Watson, Dr. Fred Torrance, and their colleagues who have been devoting their energies to this subject are to be congratulated in that their studies have benefited the higher animal, man; and it is another striking instance of the value of team work looked at from both branches of the great profession of medicine through "Comparative" spectacles.

In Great Britain for some time there has been a great mutual desire for a closer connection between the two branches of medicine, practical evidence of this being lately shown by the granting, at a recent meeting of the Council of the Royal Society of Medicine, of permission to form a "Comparative" Section. This is now *un fait accompli*, and the coming Session will demonstrate its success or otherwise. It must certainly not be allowed to be a failure; but the road to success naturally involves self-denial, expense and trouble. It rests with each individual member of the Section, whether medical or veterinary, to put his shoulder to the wheel, and thus eliminate all prospects even of such a thought as failure.

THE QUESTION OF PUPILAGE AGAIN

A letter which we are printing in our correspondence columns from a final year's student brings up again the eternal question as to whether or not the veterinary student should have compulsory pupilage. One hears every year from the students at one or other of the teaching schools that they feel the need of more opportunity for acquiring practical knowledge, and they seem to realise it more, as one might expect, when they get into the final year. Our correspondent seems to complain that this "want of provision for adequate clinical training" is due to the fact "that the training centres are situated more or less in the heart of human habitations and away from the great areas of the rearing of domestic stock." He says, that "at present the deficient practical training must of necessity be supplemented by a pupilage with a veterinary practitioner," and complains that "this pupilage is not easily obtained, particularly for those students who have no connections in the profession outside their college." He speaks of it as "a fault in the system of training,"

XUM

but he does not seem to realise that it is just as essential that he should pay a fee for being trained in what will be to him (when he starts to earn his living) *the* chief foundation on which he has to build his future livelihood, i.e. the management of the owners and attendants of the stock as well as the management of the patients themselves. This practical knowledge he can only get by being permitted to come into full contact with it during the age at which he is receptive.

Theory is excellent, and is absolutely necessary, but the opportunity to put it into practice is excellent also, and equally essential; in fact it is for the latter that he goes through the years of theoretical study, and these have, as their main object, the end in view that the qualified man shall know how to apply them to the best advantage.

Even the man who takes up State or laboratory work as his means of earning a future livelihood is better for having had a practical acquaintance in his younger days with the difficulties which are likely to occur when putting theory into practice.

Our correspondent refers to the analogy between human medicine and veterinary medicine, but one must remember that the student of human medicine has been brought up amongst his patients since babyhood, and that he has unconsciously learnt their habits in health.

It is different with the veterinary student, particularly the townsman, as we in our profession have so many varieties of animal to deal with, and a townsman who has never been in a cowshed can in a moment lose the confidence of his farmer client if he goes up to a cow on the wrong side, or calls a turnip a swede.

After all, it is the public who are judges after we get the diploma, and they are quick to pick out the men who have only a theoretical knowledge of disease and fail when it comes to the practical diagnosis with the patients in front of them.

Owners of sick animals estimate us by the results we give them, and the tact of practice (the ground-work of which is best learnt when a man is young) is just as essential to make a successful veterinary surgeon (whatever sphere of life he takes up afterwards) as his knowledge of theory.

ROYAL (DICK) VETERINARY COLLEGE CENTENARY, 1823–1923.

THIS College deserves all support from the members of the Veterinary Profession in the celebration of its Centenary. It is proposed to

found a Centenary Post-Graduate Fellowship, and it is estimated that to do this a sum of at least £10,000 will be required. To obtain this money a bazaar is to be held on November 29th and 30th and December 1st, 1923, and also to gather a sum of money beforehand by means of subscriptions; and the treasurers—H. Rawson, 19 Royal Terrace, Edinburgh, and W. Slater Brown, C.A., 45 Queen Street, Edinburgh—will be pleased to receive and acknowledge all contributions to the Centenary Fund.

A small booklet, obtainable from Professor Linton at the College, gives a short and readable account of the progress and aims of veterinary science from 1823, when William Dick delivered his first lecture on November 24, 1823, up to the present date.

It is hoped that the Post-Graduate Fellowship to be founded in his honour will be placed on a financial basis sound enough to permit the holder to study the cause and prevention of animal disease, not only in this country but in institutions abroad.

William Dick devoted the whole of his life and the whole of his earnings to the advance of veterinary science, and it is up to the profession both at home and abroad to make the Centenary in every way worthy of the occasion.

General Articles

EQUINE RADIOGRAPHY IN EQUINE PRACTICE

By Lieut.-Colonel H. WATKINS PITCHFORD, C.M.G., F.R.C.V.S.,
Late Commandant, Royal Veterinary School, Aldershot.

Up to the present time but little advance has been made towards the enlistment of light-rays in equine practice, either for therapeutic or diagnostic purposes.

Several causes have contributed to our seemingly unprogressive attitude in the past, such as the bulk or depth of animal tissue which has to be irradiated in our patients, the difficulty of securing the requisite degree of stillness when exposures—necessarily prolonged—have been attempted in the absence of a state of general anæsthesia, the want of suitably adapted operating premises, or the cumbersome, weighty, and costly nature of the portable X-ray plant.

All these causes, together with the fact that the necessary technique is neither taught in our schools nor made the subject of specialism by members of our profession, have acted as restraining influences tending to retard the growth of the young science of radiography so far as its wider application to the lower animals is concerned.

The marked improvements in technique achieved of late in this art by the employment of more rapid photographic plates, and the use of "harder" or more penetrating X-rays, have done much to remove many of the difficulties hitherto encountered, so that the veterinarian may now confidently look forward to the increasing utility of this new weapon in the fight against disease conditions, both medical and surgical.

The lines of possible research thus opened up afford an outlook of great attraction to the investigator, for the soil is a virgin one, and gives promise of a rich harvest.

Abdominal states and abnormal conditions of the digestive tract

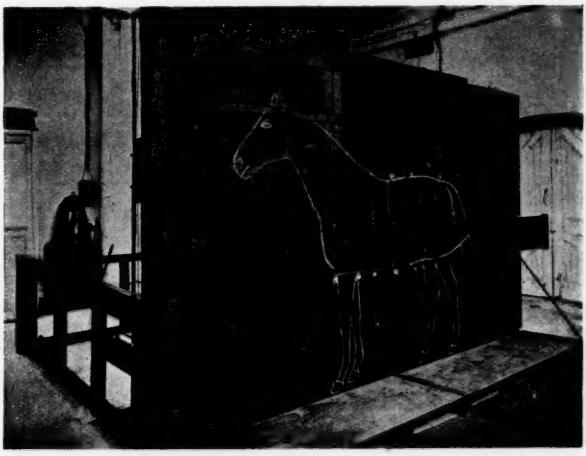


FIG. 1.—SHOWING TABLE-TOP IN VERTICAL POSITION.

form by themselves a hopeful field of observation. Every practitioner —of even a few months' standing—has been confronted with that puzzling and grave class of case, known to our medical confrères as the "acute abdomen," and has, in the presence of urgent animal suffering, felt sorely the limitations of his art and of his diagnostic skill.

Conditions of volvulus, intussusception, calculus, and even states of gross parasitism, may all confidently look for the enlightenment in diagnosis and treatment which a fuller knowledge of both normal and abnormal states is likely to afford.

In similar manner the ocular demonstration of incipient or obscure bony troubles will lead to earlier and more accurate application of remedial measures.

Cranial and dental surgery, renal and vesical calculus, states of pregnancy, or the presence of neoplasms, etc., are among the more obvious conditions occurring to the mind when attempting to forecast the applications and uses of the X-ray. Comparative medicine also may hope for much that is suggestive and illuminating from the increasing use of the radiograph in veterinary medicine.

That such considerations as the foregoing have had their weight with our Army veterinary authorities, is evident from the accompany-

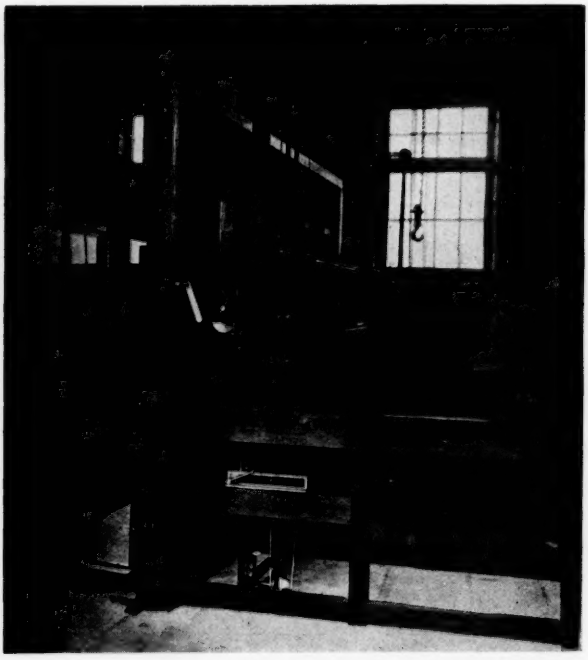


FIG. 2.—SHOWING THE REAR OF TABLE-TOP WITH TRAVERSING GEAR.

ing photographs showing the recent X-ray installation at the Royal Army Veterinary School, Aldershot, and it is hoped that this departure will be the precursor of similar installations in veterinary colleges, teaching schools and clinics, wherever our science is taught or our art practised.

Briefly described, the apparatus consists of an operating-table, erected over a cement pit or chamber containing the electric machinery which illuminates the X-ray tube. The table-top is made to slide

upon its frame-work, and tilt into the vertical position (as shown in Fig. 1), in which position exposures can be made in cases where the "casting" of the patient is not necessary. This table-top is made of stout teak slides running in grooves, any one of which can be drawn when the horse is standing upon the foot-board, so as to expose the region which it is desired to examine. In Fig. 2 the rear of the table-top is seen, showing the iron frame which carries the leaden box containing the X-ray tube. This box is capable of being raised and lowered, or traversed so as to correspond to any aperture in the table-top. In the photograph (Fig. 1) the tube is seen through such an aperture,

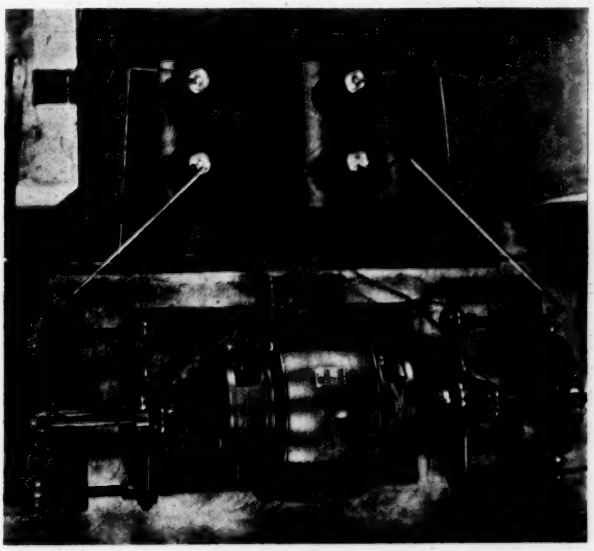


FIG. 3.—SHOWING ELECTRIC MOTOR, RECTIFIERS AND TRANSFORMER.

and is shown in a position corresponding with the cardiac region of the horse outlined as standing against the table. Where it is necessary to cast the animal—an unusual procedure with rapidly penetrating rays and quick photographic plates—the horse is roped to the table-top, when the latter is in a vertical position, by a series of rope loops, after the principle of the Mexican **V** loop, and the table-top is then rapidly tilted into the horizontal position, the iron frame-work carrying the tube-box tilting with it, so as to enable irradiation to be effected from below upwards through any desired region. Fig. 3 is a photograph from above showing the electric motor-pit and its contents,

XUM

the machinery being controlled by switches upon the wall of the operating-room.

It is hoped that members of the profession will be able to avail themselves of the opportunity of examining the installation in future, and it is not necessary to state that the Army authorities will be happy to arrange both an opportunity and to extend a warm welcome to any who may wish to inspect this appliance for the use of the X-rays to modern veterinary science.

SOLENOPOTES CAPILLATUS, ENDERLEIN, A BLOOD-SUCKING LOUSE OF CATTLE, NOT PREVIOUSLY FOUND IN ENGLAND

By A. W. NOËL PILLERS, F.R.C.V.S.

Through the kindness of Mr. F. T. Harvey, F.R.C.V.S., of St. Columb, Cornwall, I am able to record the presence of the above cattle louse from his district. In a scraping which he took from the neck of a young heifer on about December 29, 1922, I found several eggs and three lice. The host had intense irritation of the head and neck. The specimens were damaged owing to having been treated with caustic potash solution. *S. capillatus* was first described by Enderlein in 1904* from a single specimen taken from an ox at Leipzig many years previously. Bishopp† gave a full description of all stages of both sexes as encountered in the United States in 1921. He states that Ferris considered it to be synonymous with *Linognathus vituli*; Ferris had doubtless not examined actual specimens. The present species is small, being about 1·5 mm. in length. Without the aid of a lens one might mistake it for the broad-headed non-sucking louse *Trichodectes scalaris* (Fig. 5), which is about the same length. Apart from its generic characters, *Solenopotes capillatus* has prominent stigmata, with backward projecting hairs, on each side of the third to eighth abdominal segments inclusive. These points are shown in Fig. 1, which has been copied from Enderlein; they can also be made out quite well in Fig. 2, which is an actual photomicrograph of one of the damaged specimens found in the scraping. As there is not much likelihood of infestation, at the present moment, from abroad, it is possible that further inquiry

* Enderlein: *Läuse Studien*, p. 121, Band XXVIII, No. 4, Oct. 7, 1904. *Zoologischer Anzeiger.*

† Bishopp: *Solenopotes capillatus*, a sucking louse of cattle, not heretofore known in the United States. *Journ. Agric. Research*, Washington, DC. XXI, No. 11, Sept. 1, 1921, pp. 797–801, 6 figs. (Entr. in R.A.E. Series B., vol. ix. 1921, p. 203.)

XUM

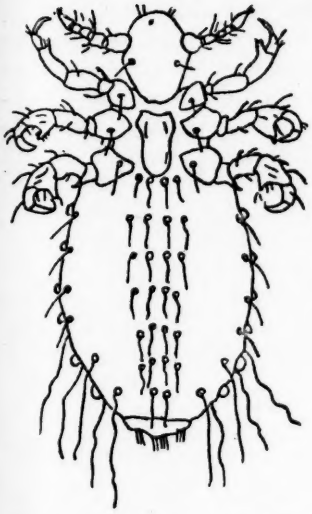


FIG. 1.—*Solenopotes capillatus*, ventral aspect × 50 (after Enderlein.)

FIG. 2.—*Solenopotes capillatus*, dorsal aspect. Damaged specimen × approx. 20.

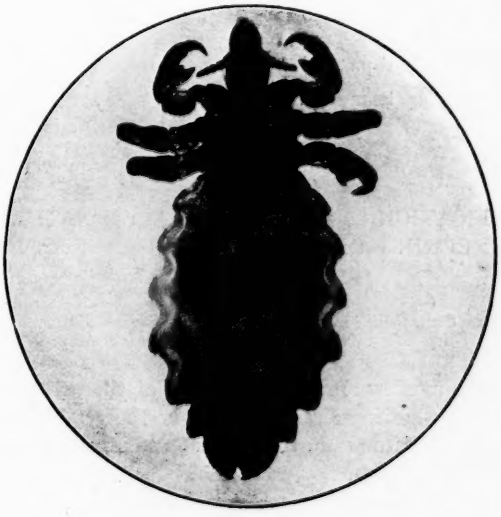


FIG. 3.—*Hæmatopinus eurysternus* × approx. 15.

may show that this louse occurs in localised areas in this country. Bovine lice are not often subjected to microscopic examination, and this might also explain why the species now under discussion has been overlooked. Fig. 3, *Hæmatopinus eurysternus*, the blood-

FIG. 4.—*Linognathus vituli* × approx. 20.

FIG. 5.—*Trichodectes scalaris* × approx. 30.

sucking louse of cattle, and Fig. 4, *Linognathus vituli*, a smaller sucking louse of young bovines, have been added for purposes of comparison. I have been unable to find any previous record of this species having been encountered here.

THE APPLICATION OF ARTIFICIAL INSEMINATION IN THE BREEDING OF SILVER AND BLACK FOXES

BY E. IWANOW,

Director of the Central Experimental Station for Stock Raising, attached to the People's Commissariat of Agriculture, Russia.

ONE of the measures for the prevention of the extinction of rare and valuable fur-bearing animals should be the establishment of so-called " zoological farms " for the breeding and rearing of such animals for commercial purposes.

The breeding of fur-bearing animals for commercial purposes already occupies a fairly prominent place in America, particularly

in Canada.* In Russia this work could be placed on an equally serious footing, as the natural conditions there are very favourable.

For a long time the idea of the use of and necessity for such zoological farms could find no recognition in Russia, in spite of the whole-hearted efforts on the part of A. V. Markgraff to bring this idea to the notice of the public. The first experiment in this direction, in the Government of Archangel, proved a failure. Later on, however, shortly before the war, a few zoological farms were established in the north of Russia, the most prominent of which were Mr. Podoroga's farm, the fox-farm of Prince M. P. Putiatin, Mr. V. A. Tchumikov's zoo-farm, and Hartvan's fox-farm.

A few years before the revolution, in Petrograd, was formed the First Russian Society for Commercial Breeding of Fur-Bearing Animals. Its chief aim was the study of methods and conditions of scientific and economic raising of such stocks, and in particular of valuable foxes.

In undertaking new work of the above nature one often meets in practice with difficulties and unforeseen circumstances which impede the normal run of work. One of such serious difficulties is the uncertainty as to obtaining a brood from animals kept in captivity. Life in captivity often leads to the disappearance (generally normal) of the sexual instinct in wild animals, especially if the animal is brought from afar, cannot feed on its usual food, and has not sufficient exercise. With regard to foxes, with which we are concerned in the present paper, there is, in addition, the factor of monogamy, selective mating, and the refusal of the male to cover several females. Thus, the valuable males or females available on the " zoo-farm " do not always mate with that specimen from which it is particularly profitable to obtain a brood. Monogamy is also a serious obstacle in the matter of unlimited utilization of valuable males, which sometimes cost as much as a few thousand dollars. This is the reason why we usually find on fox-farms a similar number of males and females, in any case not more than two or three females for every male. The purchase and cost of keeping the males are a heavy and unnecessary item in the fox-farm budget, and hinder the development of the business. Of what importance that factor of monogamy is in the breeding of silver foxes one could easily realise if one reflected what would happen to horse-breeding if horses were monogamous. How much greater would have been the expenses to achieve what has been achieved up till now in this sphere ! and how much slower would have been the progress ! This example can hardly be regarded as exaggerated or strained in view of the fact that a black or silver

* *L'élevage des animaux à fourrures au Canada*, par J. Walter Jones, 1917.

fox often costs as much as a good stallion. The only escape out of this difficult position is to be found in the use of artificial impregnation or, to be more precise, insemination of females.

Moreover, the artificial insemination of mammals is at the present time gaining more and more recognition in scientific laboratories as well as in the practice of animal breeders. Those considerations and objections which at one time were brought against the use of this method were in the course of time proved to be baseless. Indeed, subsequent evidence only served to strengthen our conviction that for the health and normal development of the progeny the manner in which the dam was inseminated is of no consequence, and that given ripe and normal seminal cells artificial insemination has at least as much chance of success as natural mating.

One of, at first sight, the most reasonable objections to the use of artificial insemination was the idea that for the proper and normal development of the offspring a certain definite nervous excitement, connected with the act of coitus, is indispensable in the female. This objection was from the first based on a misunderstanding. Even if one holds the theory that the whole sexual apparatus is dependent exclusively on the nervous system, and ignores the evidence as to the governing influence of the internal secretions of the sexual glands, even then the fears for the health of the offspring obtained from artificial insemination are without foundation.

The important fact to remember is that conception can take place only when a ripe ovum is present in the female's sexual organs. The ovum, as is well known, passes there from the Graafian follicles of the ovary. As the ovum contained in the Graafian follicles ripens, a fluid gradually collects in the latter, as a result of which the follicles increase in size, bulge out, and by the time the ovum is ripe, rupture. The ovum is liberated, and thus becomes a cell which is free from the immediate influence of the organism's nervous system. Subsequently the ovum generally passes into the nearest division of the genital tract (Fallopian tubes), where impregnation takes place if the ovum gets in contact there with life-bearing seminal cells. Travelling in the genital tract of the female, the ovum represents, as it were, a free organism within an organism. If the development and ripening of the ovum, while it remained in the ovary, were directly dependent upon the functions of the sexual glands, and in this way subject to the influence of some nervous centres, such dependence or connection comes naturally to an end during the period preceding conception.

It has been sometimes argued that the act of coitus is accompanied in the female with certain nervous excitement and access of blood to the sexual organs ; that these conditions are necessary as producing

a favourable effect not only on the conception but also on the development and nutrition of the fœtus. It is forgotten, however, that the ovum comes into contact with the spermatozoon at least several hours after coition, and that before attaching itself to the uterine mucous membrane, it continues to move freely for some days after fertilisation (about seven days in the case of the rabbit). By this time the effect of the excitement connected with the act of coition has disappeared, and both the mucous membrane of the sexual organs and the nervous system have returned to a normal state.

Thus it will be seen that the fertilisation of the ovum as well as its adhesion to the uterine mucous membrane in artificial insemination take place under conditions hardly differing from normal. Sexual irritation in mammals is undoubtedly an important and necessary condition for the attraction of sexes. But to regard the act of coition as a factor without which normal conception and development of the fœtus cannot take place, is neither theoretically nor practically justified.

Sexual excitement brought to a certain pitch is a necessary condition for the ejection by the male of ripe seminal cells. The ripening of the ova and the rupture of the Graafian follicles, however, is of periodic recurrence in such animals as foxes, and is directly related with the so-called " heat " or " rut."

The phenomenon of " rut " in the dog family is observed at a definite time of the year, in foxes towards the end of winter. The commencement of " rut " is characterised by an increased vascularity and swelling of both internal and external genital organs, followed by an escape of blood from the uterine mucous membrane and flow of blood through the vagina (*pro* œstrum). The amount of blood discharged by dogs is great, and that by foxes insignificant. This circumstance makes it very difficult to determine the commencement of " rut " in foxes. Usually the female allows the male to cover her only at the end of that period, when the escape of blood has considerably diminished or stopped. This period of " rut," denoted by Heape as œstrum, is the most suitable for insemination, as just at this period ovulation, i.e. the ejection of the ripe ovum from the Graafian follicles, is observed. The ripening and ejection of the ovum from the Graafian follicles takes place in foxes independently of the fact whether the female has been covered by the male or not. If the female was not covered, then the liberated ovum dies in the genital tract, and the genital organs return to their former state. The evidence of experiments with artificial insemination fully bears out the above. Females into whose genital organs fresh and life-bearing sperm has been injected during this period of " rut,"

under proper technical conditions, have shown the same percentage of conceptions as in natural impregnation.

With regard to the percentage of abortions in the case of artificial insemination, it does not differ from that in natural insemination. The offspring of artificial insemination, according to the evidence of lengthy and numerous experiments carried out on various animals, spends the normal period of time in the mother's womb, and neither in fecundity, nor in vitality, strength or powers of endurance does it show any inferiority to animals of the same age born from natural insemination. Nor does the offspring of males as well as females produced after artificial insemination differ in any way from the normal type, as far as one can judge from evidence collected in the course of over twenty years.

Thus, the absence of sexual excitement in the female, when being artificially inseminated, does not lower the capacity of the ovum for receiving the spermatozoon, and does not result in conditions which would prevent the adhesion of the fertilised ovum to the uterine mucous membrane, or which would harmfully affect the nutrition of the fœtus or its further normal development.

When artificial insemination of mammals has found practical application, it was used first of all as a means against persistent sterility in females. It was considered to give valuable results in this direction, both by gynæcologists and animal breeders. I have always strongly contended, and still contend, that the main use for artificial insemination is to be found not in that direction, but in the fact that it is a zoo-technical method which makes it possible to obtain a larger brood from better and more valuable progenitors at a lesser cost and in a shorter period of time. The greatest practical importance of this method lies in the possibility of inseminating ten and more females with the seminal fluid of a valuable male collected during one copulation, and of obtaining in this way, with the same number of males and the same number of "leaps," a more numerous offspring.

This view found practical application in Russia, where this method was used three to four years before the war on a fairly large scale in horse-breeding, especially in the South of Russia and on the Volga.

The application of artificial insemination to dogs and foxes is technically simpler than in the case of horses or cattle.* The sperm of a dog and fox is obtained by means of mechanical irritation of the male, and a whole series of actions essential for obtaining sperm from a horse is avoided. Nor does the injection of the seminal fluid present

* E. Iwanow: "Observations sur le procès d'éjaculation du sperme chez le chien." *Comp. Rend. de la Soc. de Biol.*, t. LXXX pp. 514–517, 1917.

any difficulties, as it is directed into the vagina and not into the neck of womb.

For obtaining sperm from dogs, that type of stand is employed which is used for fixing dogs with a fistula in obtaining intestinal and gastric juice or saliva. It is the kind of stand used in the laboratories of the academician I. P. Pavlov. For foxes it should be somewhat smaller and lighter than for dogs.

The male is fixed in such a manner that he is able to move, but cannot lie down, run away, or bite. His legs are held in four loops protected by rubber tubes in order to prevent possible abrasions from the ropes. The neck is held in a collar with a string or chain attached to it and tied to the upper beam of the stand.

At first dogs and foxes are very restless and try to break away, but after a while they get used to the stand and cease to resist. The sperm is obtained by irritating that part of the penis which lies nearest the scrotum,* the hand with which this operation is performed being previously smeared with vaseline. However unæsthetical and repulsive this operation may at first sight appear, it is the simplest and safest way of obtaining sperm from a dog or fox. In our laboratories, where we conducted a very great number of experiments on the biological and physio-chemical properties of the seminal fluid of mammals, a definite number of dogs were kept specially for the purpose of supplying the necessary fluid for investigation. The dogs served a fairly long time, reaching the age of eight to nine years, and have never shown any signs of discomfort or disorders.

The seminal fluid is ejected sooner and in a comparatively greater quantity when a bitch, particularly one in " rut," is placed before the stand.† The first portion of the ejected fluid (secretion of the urethral glands) is perfectly clear ; the second portion is of a milky opaqueness, and represents a thick mass of seminal cells contained in the secretion of the prostatic gland, which, apart from the urethral glands, is the only accessory genital gland in dogs. The amount of spermatozoa ejected reaches from 0·5 to 2 or 3 c.c. and over, according to the individual. The remaining or third portion of the seminal fluid is bright and clear and free from spermatozoa.

The seminal fluid of a dog or fox can easily be divided into fractions, as its ejection lasts seven to fifteen minutes, and it is expelled rhythmically, a few drops at a time.

The seminal fluid is collected in a glass held in one hand, while the root of the penis is being lightly irritated with the other hand. The

* G. Amantea : " Die reflexogene Hautzone des Penis des Hundes für die Geschlechtsakte." *Pfluger's Arch.*, 154. Bd., H. 47.

† E. Iwanow : " Facteurs qui agissent sur le travail de glande de l'appareil genital du chien." *Comp. Rend. de la Soc. de Biol.*, t. LXXX, pp. 517–520, 1917.

amount of seminal fluid secreted depends upon the individual animal, its food and sexual regimen, general conditions of captivity, etc., and can vary considerably, viz. from 0·5 to 30·0 c.c.

When collecting the sperm, the first two portions, which are richer in seminal cells, may be accumulated in a separate tube and diluted with the clearer fluid of the third portion as needs arise. It is necessary, however, to remember that too great an admixture of the secretions of the prostatic gland to the spermatozoa may lead to the lowering of the latter's vitality, and can therefore be justified only in cases of practical necessity, as, for instance, when a few females in " rut " are available at the same time, in which case full portions of both fluids could be mixed. We generally prefer to inject the spermatozoa in a less diluted form.*

The injection of sperm into the vagina is effected by means of a special catheter and syringe. The catheter is introduced into the vagina fairly easily if its end be smeared with vaseline. The catheter should be introduced in accordance with the direction of the vaginal cavity in a dog—at first inclined somewhat upwards, then into the interior of the organ. When entering the vagina the catheter comes into contact with the strongly developed muscles of the genital cavity, and seems to meet an obstacle, but a few movements backwards and forwards will enable the catheter to enter the organ freely. The vaginal cavity in dogs and foxes is comparatively long, and the catheter should be introduced so far as to meet the resistance of the roof of the vagina. The sperm is drawn into the syringe, which should first be washed, boiled or kept for fifteen minutes in 60 per cent. alcohol, and then dried. The capsule of the syringe filled with sperm is placed in the catheter. By pressing the piston the sperm is driven into the catheter, and as soon as a drop appears at its end the catheter is introduced into the vagina according to the above directions. Though there is no danger of an air-bubble entering the vaginal cavity when the sperm is being injected, nevertheless it is advisable to take precautions preventing this possibility.

The amount of sperm about to be introduced is determined first of all by the amount of seminal fluid available, and then by the number of females intended for artificial insemination. Too much sperm can have no harmful effect, while, on the other hand, a minimum of sperm, especially with low motility and small number of seminal cells, can be one of the causes of failure. When the spermatozoa

* Those interested in the problem of the function of the secretions of the accessory genital glands, of their influence on the biological properties of the spermatozoa, will find some observations in my article, " Ueber die physiol. Rolle der accessorische Geschlechtsdrusen der Sangetiere . . ." *Archiv v. Micros. Anatomie*, B. 77, 1911, s. 240–248.

are plentiful and their motility is clearly seen, success is possible even when only 1–2 c.c. of sperm is injected.

Apart from this kind of artificial insemination of females with "natural sperm" (spermatozoa in the secretions of the accessory genital glands), it is also necessary to indicate the possibility of insemination with the so-called "artificial sperm" (spermatozoa in an artificial medium, e.g. physiological saline, Locke's fluid, etc.).

This latter method, worked out by us as far back as 1899, has found wide application in the laboratory practice operating on small animals from which natural sperm is more difficult to obtain.

In order to obtain artificial sperm the male must be castrated on one or both of the testes, and from the appendix of the male seminal gland the spermatozoa are collected and then placed in one of the above saline solutions.

In animals with large seminal glands (horses, cows, sheep, pigs) the spermatozoa are collected from the vesicle of the testis by slitting open the ducts of the vesicle. The percolating mass of spermatozoa is collected with a surgical spoon and transferred in the same spoon into this or that solution. By rinsing the spoon in the solution a quantity of sperm in prepared of a milky colour.

For dogs, rabbits, etc., artificial sperm is prepared by cutting up the vesicle of the testis into small bits with scissors, separating it from the seminal gland, and placing it in the solution. This is done usually in a watch-glass or a small evaporating basin. A better medium for spermatozoa is Locke's or Tyrode's solution.* When, however, the necessary salts are not available, satisfactory results can be obtained from a physiological solution of common salt, 0·85–9·90 gm. of which is used for 100 c.c. of water. The small bits of tissue of the vesicle of the testis can be separated by straining the sperm through a piece of muslin. The motility of the spermatozoa should first of all be examined under a microscope, and the sperm should then be injected with the same syringe and catheter and in the same way as indicated above.

By means of this method it is possible to obtain a brood from the spermatozoa of a male killed even on the previous day. This kind of experiment was carried out by us some time ago on cows, horses, and other animals. One of the cows experimented upon was inseminated with spermatozoa obtained from the vesicle of the seminal gland of an ox killed on the previous day, the seminal glands being delivered from a slaughter-house situated at a distance of

* Locke's fluid contains, in 100 water: NaCl, 0·9; KCl, 0·042; $CaCl_2$, 0·024; $NaHCO_3$, 0·01–0·03; Glucose, 0·1–0·25.

Tyrode's fluid contains, in 100 water: NaCl, 0·8; KCl, 0·02; $CaCl_2$, 0·02; $NaHCO_3$, 0·1; $MgCl_2$, 0·01; Na_3PO_4, 0·005; Glucose, 0·1.

over twelve miles, and were kept for about twenty-four hours in a warm temperature. The cow thus inseminated in due time gave birth to a calf which grew up and was a splendid milch cow.*

The same kind of experiments, with as good results, were carried out on horses. The foals born developed normally and did not differ in any way from other foals of the same age. At the present time this kind of artificial insemination enjoys full recognition in experiments on rodents (mice, guinea-pigs, rabbits). If the seminal gland is kept at a temperature of about 0 per cent., it is possible then to obtain from it spermatozoa of great motility in a week's time and even later. Seminal cells taken under conditions of sterility from the vesicle and kept in sealed vessels at a temperature of 0 per cent., may retain vitality for many days, sometimes thirty. Whether the spermatozoa retain for as long a period of time the capacity for producing conception has not yet been verified.

Thus it will be seen that artificial insemination makes it possible to utilize the faculty of reproduction not only of a living male, but also of one killed, say, in the hunt, and brought to the breeding establishment.

Thus the application of artificial insemination on fox-farms could give a new impetus to the development of this industry and hold up to it new prospects. With the use of this method in the practical work of breeding silver foxes it becomes possible successfully to commence operations even with one black or silver fox. The females can be ordinary red foxes. One male could easily inseminate twenty and more females (according to the individual). The offspring thus obtained could, when crossed, produce a distinct line of black and silver foxes, and when these are again crossed with a black or silver male, a valuable and numerous brood could be obtained from which it would be still easier to separate a line of silver and black foxes, which, as is well known, are very valuable and find a ready sale.

The sperm of valuable males could be used also on other farms, situated at a distance of a few hours' ride in a motor or by rail. The spermatozoa of dogs and foxes can retain their vitality in the secretion of the prostatic gland at an ordinary temperature for about twenty-four hours, sometimes longer, and could safely be carried over a distance of five to ten hours' journey. The co-operative principle is thus brought into play, and it becomes possible even for comparatively poor breeders

* See E. Iwanow, "Artificial Insemination of Mammals." *Arch. of Biol. Science*, 1907.
Also "Artif. Insem. of Domestic Animals." *Arch. of Vet. Science*, 1910, by the same author.
Also *Die kunstliche Befrucht. d. Haustiere*, 1912, Hanover, Verl. Schaper. By the same author.

to start farms for the breeding of valuable foxes. Artificial insemination was used before the war on the zoological farms of Putiatine, Tchumikov and Hartvan, but the war and the Revolution put an end to this beginning. It was used both on black and white foxes. The results, for obvious reasons, cannot be ascertained. The collection and injection of sperm does not present any technical difficulties. The main difficulty was that of determining "heat" in females, and particularly the œstrus period, in view of the fact that in foxes, as already pointed out, the commencement of "heat" is not accompanied by an escape of blood from the vagina, as is the case in dogs, while other signs, often pointed out by people who take care of the animals, are not much to be relied upon.

DEVELOPMENTAL INTERSEXUALITY IN THE DOMESTICATED MAMMALS AND ITS BEARING UPON THE PROBLEM OF HERMAPHRODITISM IN THE HUMAN.

By F. A. E. CREW, M.D., D.Sc.,
Director of the Animal Breeding Research Department, The University, Edinburgh.

A SERIES of cases of anatomical abnormalities of the reproductive system in the horse, cattle, pig and goat has been examined. It would appear that the conditions found present phases of the same process, and are all due to one and the same cause.

The history of a typical case is somewhat as follows :—An individual grows to early maturity, is regarded as an ordinary immature female, and may even win prizes as such. Later certain of the male characters become expressed. On examination of the reproductive system there are found : paired gonads in the position of the ovaries or nearer the internal abdominal ring, epididymi, ducti deferentia, vesiculæ seminales, uterus, vagina, an imperfect vulva with an abnormal clitoris, prostate, bulbo-urethral glands.

It is suggested that the most probable cause of the condition is imperfection in time or in degree of sex-differentiation. If the sex glands do not become differentiated timeously then, in the absence of the appropriate sex-hormone and under a common stimulus of nutrition, Wolffian and Müllerian ducts pursue an uncontrolled, parallel, and equal development, to become epididymi, deferent ducts, seminal vesicles, and uterus and vagina respectively. The urogenital sinus with the genital tubercle continues its undirected growth to become a urogenital cleft and phallus.

When sex-differentiation ultimately takes place these structures are too fully grown to respond to the directing stimulus of the sex-

hormone. The sex-hormone, however, can influence behaviour and the secondary sexual characters, so far undeveloped.

Zygotically, such individuals are males in which sex-differentiation has been much delayed or very imperfect.

Clinical Articles

EQUINE ACUTE RHEUMATISM, OR RHEUMATIC FEVER

By Major H. ALLEN, R.A.V.C.,
Remount Depot, Saharanpur, India.

I have always been a sceptic as regards equine rheumatism, and considered the diagnosis to cover a multitude of sins, and the last resource of the empiric, but am now completely converted to the fact, and always bear it in mind when I see a horse symptomatic of acute "laminitis."

General Symptoms.—It is characterised by fever, and by the occurrence of inflammatory hyperæmia of the synovial membrane, and effusion of fluid into the joints of the extremities (fetlocks). It is of interest to note this predilection of the inflammation for parts of identical structure and functions.

The inflammation quickly subsides in joint or set of joints and then attacks others. In subacute cases the joint affection may be slight, and the pains also, without any notable joint inflammation. It is peculiar in its metastatic tendency to move rapidly from one set of joints (fetlocks) to another.

The average severity temperature usually ranges between 102° and 104° F. early in the disease. The pulse may be rapid and feeble, but as a rule it is not much altered in volume. Constipation. Skin may be bathed in perspiration. General malaise is seen in some cases.

Loss of condition may occur. The general action of the animal is cramped and crouching. A hasty glance gives you the idea of "laminitis," or premonitory symptoms of "spasmodic colic." Duration of the disease is three to seven days.

The disease is an acute infection said to be due to the direct action of bacteria and their toxins.

A variety of organisms may be connected with the disease, but on the other hand the comparative uniformity of the symptoms rather suggests that the disease is a clinical entity, due to a specific micro-organism.

It is said that the association of acute rheumatism with the streptococcus group of micro-organisms is an intimate one.

Treatment.—Brisk physic.

Half-ounce doses of sodium salicylate three times daily. Salicylates seem to have a specific action on articular inflammation. Light diet of bran mashes and green forage.

Absolute rest for the inflamed joints is easily carried out in the human subject by ordering the patient to bed at the earliest appearance of the symptoms, but this is very difficult in veterinary practice.

Free wrapping of the affected fetlocks in cotton-wool, and retained in position by flannel bandages.

In the later stages, when the acute inflammation has subsided, light hand massage to the affected joints with application of weak ammonia liniment is advocated.

If any degree of pain and swelling persists in one or more of the fetlocks for some time after the constitutional symptoms have disappeared, simple massage and passive movements along with internal administration of potassium iodide, should be adopted.

Streptococci Antiserum.—Some authorities state that it is inclined to create severe symptoms in the heart and joints. As the identity of the causal organism has not been established it is obviously futile to prepare antiserum.

I treated one case with polyvalent antistreptococcus serum, with more or less the same results as obtained under salicylate of soda treatment.

I administered two intravenous injections of 40 c.c.

The temperature assumed the normal on the third day, and the patient's gait on the same day was decidedly improved. On the fourth day there was slight swelling of the off-fore, and both hind fetlocks, and the patient was bright, feeding well, and moving freely.

Medical practitioners in cases of rheumatism which fail to benefit from the customary eliminative treatment adopt rheumatism phylacogen, and others advocate organotherapy in the form of thymus compound (thymus, thyroid, and pituitary). The latter is considered a valuable agent, administered to patients receiving proper hygienic care.

Intravenous injections of 1 to 2 grammes sodium salicylate in 20 c.c. of sterile water given every eight to twelve hours proved effective in the human subject, in either muscular or articular rheumatism.

Etiological Factors.—Humid climate.

Exposure to cold and heat or to "chills."

High-water level, or badly drained soil.

The above are only predisposing causes, as the disease itself is an acute infection.

I believe that equine articular rheumatism is met with in Egypt and Mesopotamia, both being dry countries, so that humidity inducing rheumatic fever is not supported by statistics.

HYDROCEPHALUS

By W. GARDNER, M.R.C.V.S.,
Maybole.

I CAN recall half a score of this type of fœtal monstrosity in cattle practice in the course of twenty years' experience, with successful issues in fully 50 per cent. of them, i.e. the mother survived; but I cannot recall a case to equal the last one I encountered in the great dimensions of the fœtal head, the small size of the dam, and the resistance of the presentation to a full equipment of parturition instruments.

The subject—a pedigree Ayrshire quey—two years and ten months old, of milk record strain. I was summoned by the owner's son, who remarked: "We have tried her, but could find no head. Bring your knives, as there will be some cutting to do."

Knowing the practical knowledge of my clients, I at once realised I was up against something surpassing the ordinary. On arrival, I learned the quey had been some four hours in labour, and on examination I found both forelegs in the vagina, with deviation of the head towards the left flank.

With some difficulty, owing to the "tightness" of the pelvis and curvature of the neck of the fœtus, the head was retracted towards the os, when it was apparent the fœtus was the subject of hydrocephalus.

The head was punctured from behind with the trocar. This made no reduction in its size. The size of the head precluded the use of the obstetric ecraseur, so the finger embryotomes and long, sharp crotchets were resorted to; but they proved useless to cut the hardened cranium of the fœtus.

I concluded that delivery was impossible, and as the quey was in good condition, a butcher was sent for to slaughter the animal, and under my supervision the uterus was carefully drawn aside and laid open, when the following interesting particulars were seen: The head was of an enormous size, measuring 14½ in. from tip of nose to crown

of head; 18 in. across the crown; head 35 in. in circumference, and 14 lb. 2 oz. in weight.

The nasal bones were only 2½ in. in length; the orbital fossæ very small and elliptical in shape, facing downwards towards the inferior maxilla, which was the only bone of the head presenting a normal appearance. All the cranial bones were completely ossified except a small space between articular surfaces, of which would have been the frontal bones in a normal head. This complete ossification and hardness of all the abnormal bones was the peculiar feature of

HYDROCEPHALUS.

the case, and after being well boiled it remained intact and bones resisted a strong flesher's knife.

In the majority of cases of hydrocephalus, in my experience, when so dealt with the bones fell asunder, being mostly cartilaginous and easy to cut.

In some cases there was a part, usually the crown of the skull, more or less devoid of bone formation—covered by skin only—whereby embryotomy was rendered easier and delivery effected. In such cases the specimen, when prepared, gave one the appearance of a large bowl, but in this case, I repeat, the skull was complete.

From the appearance of the fœtus and the statement of the owner

and his son—who both distinctly felt the "tug" of the forefeet, when attempting to help delivery—I am of the opinion the calf was alive at the commencement of labour. This is contrary to my usual experience in such cases; the fœtus has usually presented conclusive evidence of being dead for some time.

In every other respect the calf appeared normal and was of average size.

I hope some inventive practitioner will produce an improved type of instrument to meet the requirements of such a case as I have described.

BOWEL FISTULA

By W. GARDNER, M.R.C.V.S.,
Maybole.

Subject.—A two-year-old pedigree Ayrshire heifer. I was called on April 14th last to treat her for supposed stomach disorder. She had been ailing for three days; was off her food, the bowels were constipated, she grunted occasionally, but the pulse and temperature were normal.

She was given two sharp doses of cathartic medicine, followed by stimulating tonic powders, and in ten days appetite and rumination were restored. She was then allowed to resume her place with the herd.

About a month later the owner observed that when she was turned out to water she inclined to lag behind the others, walked slovenly, and drank more water than usual. She still fed well, but the consistency of the fæces was always firm, despite a liberal ration of treacle.

About this time a small hard swelling appeared in the vicinity of the umbilicus, but caused no inconvenience. Pastures being better, the owner turned her out to grass for a change. During the next ten days the swelling gradually became larger.

Called in again on June 6th, I found the circumference of the swelling, which was in front of the umbilicus, could be spanned by the extended fingers. It was dense and very painful, and in its centre was a fistulous opening from which was escaping a fœtid discharge, smelling strongly of ingesta. The owner's attention being drawn to the discharge, he assured me that on the previous day the swelling was intact, and showed no trace of any discharge. The quey was cast, and I carefully explored the opening.

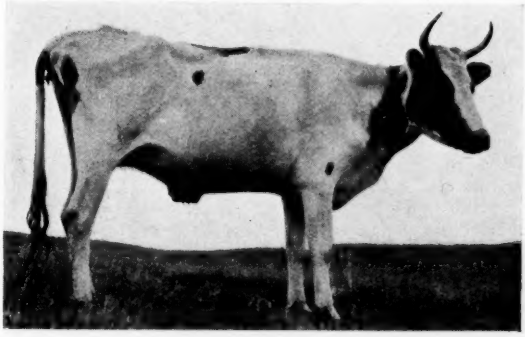
Diagnosis.—Fistula of the bowel, probably due to the swallowing

of and subsequent outward penetration of a sharp foreign body, which, however, I failed to discover.

The swelling consisted of granulation tissue permeated by several small abscess ducts, besides the fistulous opening in the centre, which had irregular edges, and was of sufficient width to permit the entrance of the middle finger.

Prognosis.—Unfavourable.

As the owner desired the subject should have every chance, I decided to operate. Defæcation and micturition were unduly frequent, and on each occasion there was a simultaneous discharge of bowel contents from the fistula. Further, about ten minutes after drinking water a steady stream of liquid was exuded from the wound.



Bowel Fistula.

On June 8th I took the above photograph, and afterwards operated. The quey, having been prepared for forty-eight hours, was given a hypnotic, and was then cast. A local anæsthetic was used and thereafter the swelling was transfixed with strong whip-cord, and the major portion of it removed with the scapel and actual cautery. I then put in a deep purse-string suture of carbolized catgut, and removed the remainder of the swelling.

I visited the patient several times during the next fortnight. With exception of slight colic attacks, she did well, and the suture held. A pitch-tar plaster was applied, and a surcingle adjusted to protect the operation wound.

On June 24th she was turned away to grass again, and was allowed a liberal supply of cake and concentrated food. The operation wound gave no trouble.

After nearly three months, as she had put on no weight, I feared further trouble in the intestinal tract, and recommended slaughter.

Post-mortem.—A cicatrix 1½ inches in length was discovered in the wall of the pyloric part of the abomasum. The mucous membrane at this point was very much thickened, and there was a well-defined round ulcer 2¼ inches in diameter, the borders being well marked.

The serous coat here was slightly inflamed and adherent to the abdominal wall by strong bands of fibrous tissue.

The remainder of the intestinal tract and all other organs appeared normal.

I consider the ulcer in the abomasal mucosa was a sequel, and that the primary attacks of indigestion in April were due to the disturbing influence of the perforating action of some foreign body.

Abstracts of Current Literature

Bell, Gordon.—Serum Treatment of Glanders in Man.—*Canadian Veterinary Record*, January–February, 1923.

During the early part of 1922 there was a serious outbreak of glanders among the horses at Treesbank, Manitoba, and a young farmer who had several of his animals affected contracted the disease. He was brought to Winnipeg, and Dr. A. Gibson had him under his care for several months at the Galloway-Gibson clinic, where he was vigorously treated without any very appreciable effect. In the early part of December, while discussing the case with Dr. F. Torrance, Dr. E. Watson, Dr. M. Gallivan, and Dr. L. Heath at the Biological Laboratory, Health of Animals Branch, at Ottawa, they told me they had a horse that they were endeavouring to immunise by the repeated injection of Mallein, and that if we had the courage to try its serum on a human being they were willing to supply it practically *ad lib.* I brought home a considerable quantity, and Dr. Gibson readily assented to its being tried out. To be brief, the results were simply amazing. This young man had a suppurating sinus running from below the knee to the ankle, and six shorter ones radiating from this region and riddling the foot and lower part of the leg, besides a large ulcer 1½ inches in diameter about the internal malleolus. Indeed, so grave was his condition that amputation above the knee was seriously considered.

After four or five injections of the serum the sores had ceased

to suppurate, and in less than three weeks were completely healed, and the man is now about his work as usual.

In the meantime, the young doctor who was attending the case had accidentally infected himself, and came to Winnipeg with an angry sore 1 inch in length and ¾ inch in width on the upper part of the dorsal surface of the right forefinger. The edges were undermined, and on the slightest movement of the finger pus exuded everywhere from the floor. It was steadily progressing in spite of the application of iodine and other antiseptics, and the *B. mallei* was found in pure culture in the discharge.

After three injections of the serum it assumed the appearance of a clean sore in which the bacillus could not be found either by culture or smear, and which went on and healed in the most kindly fashion until, in less than two weeks, the skin was again quite intact.

Dr. Gibson and Dr. Jackson will make a full report on these cases at an early date, but in view of the possibility that there may be other sufferers from this disease I thought it right to ask you to publish this.

There is perhaps no chronic infection that has such a gruesome and distressing clinical course as glanders, and any new and better method of treatment would be a boon. Any physician having the opportunity and wishing to try this serum can count, I am sure, on the eager co-operation of Dr. Torrance's department.

Roger, J.—Parasitic Dyspepsia and the Symptomatic Complex connected with Gastro-Intestinal Parasitism — Diagnosis and Treatment.—*Revue Vétérinaire*, February and March, 1922.

THE clinical signs of worms are disturbances of appetite and digestion, morbid symptoms of circulatory origin, such as extra-systoles without cardiac lesions, venous pulse, œdemas, nervous symptoms. These signs, however, may be little manifest, and are not pathognomic. Laboratory methods then help. The discovery of the parasite, its eggs and embryos is of great value. Microscopic examination after centrifugation enables the eggs of sclerostomes, ascaris and oxyuris to be easily detected. Tænia and habronema eggs are much more difficult to detect. Examination of the blood reveals anæmia with marked polynucleosis and eosinophilia. It is possible to get an idea of the richness of the blood in hæmatin by a study of the clot. Normally the volume of the red clot represents three-fourths, or two-thirds of the white clot; in the course

of verminous anæmia, this volume may drop to a third, a fourth, or even a fifth.

Laboratory methods, however, are slow, and Roger has a method of clinical exploration by means of a delicate and sure instrument which he calls "the equine keyboard." Its use depends upon the fact that reflex action of the nerves to percussion is greater over the region of parasitic organs than in healthy ones. The "verminous keyboard" comprises two series of zones to explore: those which correspond to the stomach and duodenum, on the one hand, organs which harbour œstri, habronemas and ascari; and those related to the large intestine on the other hand, the common situation of strongyles, cylicostomes, and oxyura.

Hyper-reflectility of the left mastoido-humeral and the posterior slope of the withers are the two principal symptoms indicating parasitic gastro-duodenitis. The right flank, the right hypochondria, the inferior part of the left hypochondria are the zones to explore in the case of suspicion of parasitic enteritis. It is remarkable that these zones, the situations of intense reactions to weak stimuli, recover a normal sensibility as a result of effective anti-parasitic treatment.

Roger uses carbon desulphide 20 grammes emulsionised in 200 grammes of castor oil, and divides the dose into two fractions which are administered morning and evening. The animal is fasted twenty-four hours and only given warm drink. This treatment is for parasites of the stomach and duodenum.

For parasites in the intestine, Roger gives 50 to 60 grammes of turpentine essence emulsified in oil as one dose.

If two parasiticides are needed on the same horse, each agent must be used separately, leaving an interval of eight days between the two treatments.

Correspondence

To the Editor of the "Veterinary Journal."

Sir,

The provision of adequate clinical training for the students has always been a difficult question in veterinary education, the reason for which is not far to seek when one remembers that the training centres are situated more or less in the heart of human habitations, and away from the great areas of the rearing of domestic stock. The same situation is ideal for the teaching of human

medicine, and students in this subject have a tremendous advantage in being able to attend daily the huge clinics which the city infirmaries provide.

At present the deficient practical training must of necessity be supplemented by a pupilage with a veterinary practitioner; yet this pupilage is not easily obtained, particularly for those students who have no connections in the profession outside their college. This seems to be a fault in the system of training which can be remedied now, and on behalf of my fellow students I should like to make an appeal to practitioners.

Might I suggest that a roster of Veterinary Surgeons willing to take students during the vacation be drawn up, and that students be selected by committees operating at all the Veterinary Colleges, and graded there, according to their experience. Veterinary surgeons would be asked to communicate with the Editor, stating whether they desire an experienced senior student, or a less experienced student, who would pay for his board, with perhaps a small premium.

I hope these few remarks will stimulate an interest in the subject which will finally lead to the actual operation of such a scheme. I ask for suggestions in the columns of the JOURNAL, and also that any member of the profession who feels in any way interested in this movement would communicate with the Editor, in order that a roster of Veterinary Surgeons may be formed.

E. L. TAYLER,
Final Year Student.

March 4, 1923.

Personal

AT a quarterly meeting of the Council of the Royal College of Veterinary Surgeons held at 10, Red Lion Square on April 6th last, it was announced that H.R.H. the Prince of Wales had graciously consented to become an Honorary Associate of the College.

THE Royal Society of Medicine has now admitted over sixty Veterinarians to the privileges of Fellowship, and at a recent meeting of the Council it was decided that a "Comparative" Section should be formed, the main objects being that members of the two branches of the profession of medicine, the human and the veterinary, should meet together on common ground to discuss diseases of mutual interest; not only those communicable from animals to man, but those which are analogous, and those which have idiosyncrasies and differences. There is no doubt that the benefits derived will

be mutual, for the two are each workers in the same field, and the favourite motto of that great Empire-builder, the immortal Cecil Rhodes, "So much to do, so much undone," applies equally to the work of each in the fight against disease. Applications for Fellowship of the Society, or Membership of the Section, can be obtained by a letter addressed to the Secretary, Sir John MacAlister, 1 Wimpole Street, London, W.

It is proposed to erect a memorial in Hyde Park to the animals that lost their lives in the war, and the Royal Society for the Prevention of Cruelty to Animals have collected a sum of money for the purpose. The animals represented will include horses and mules (amongst whom some 360,000 casualties), elephants and camels, and even the mice and birds used for testing the presence of poisonous gases will not be forgotten.

The Memorial Fund to the memory of the late Professor Andrew Smith, M.R.C.V.S., the former Principal of the Ontario Veterinary College, is making progress towards the 5,000 dollars asked for. The Treasurer is Dr. George Hilton, 126 Lewis Street, Ottawa, Canada.

The next meeting of the American Veterinary Medical Association is to be held in Montreal between the 27th and 31st of August. A very attractive and instructive programme has been arranged, and visitors from the British Isles are informed that they will be very welcome. Is it not possible for the National Veterinary Association of Great Britain to send delegates?

The new buildings of the Canadian Veterinary College, formally opened at Guelph, Ontario, on December 22, 1922, and the proceedings were well supported by some 200 influential veterinarians, agriculturists and Government officials. The Hon. Manning Doherty Minister of Agriculture, presided, and amongst well-known names were those of Dr. McGillivray (the Principal), Dr. J. G. Rutherford, C.M.G., Dr. Fred Torrance (Veterinary Director-General), and many others.

At a recent meeting of the Royal Society of Tropical Medicine and Hygiene held at 11 Chandos Street, W., in the course of the discussion on a paper on "The Treatment of Human Trypanosomiasis," by Drs. Low and Marson-Bohr, Professor W. J. R. Simpson stated that

> "It appeared to him that the solution of the problem of freeing Africa of trypanosomiasis was no nearer than it was in

May 1921. He was of opinion also that the only way in which the problem of trypanosomiasis will be solved was by a Special Commission of Medical and Veterinary men, with well-trained assistants, going out to Africa, staying several years studying the problem in its various aspects, and testing on a large scale, not only the serum treatment advocated by Drs. Marshall and Vassalo, but other promising forms of treatment, curative and preventive."

CONGRATULATIONS to Mr. G. P. Male, M.R.C.V.S., of Reading, on riding his hunter to victory in the South Berks Hunt Race; also to Mr. H. Westgate, M.R.C.V.S., of Leicester, on winning the Wigston Plate with his mare "Nora McTavish"; and to Major Thrale, O.B.E., M.R.C.V.S., on the success of his horse "Ibberton," ridden by Major Doyle, O.B.E., M.R.C.V.S., in the Uttoxeter Hurdle Race.

IN the *Belfast Gazette* we read that

> "His Grace the Governor has been pleased to appoint Mr. J. Ewing-Johnston, M.B.E., M.R.C.V.S., of Tally-Ho, Strandtown, Belfast, to be Honorary Veterinary Surgeon, to date March 10, 1923."

A well-deserved honour, and Mr. Johnston has the congratulations of the profession in that he is the first to occupy this position.

THE Royal Sanitary Institute is to hold its Annual Congress at Hull between the 30th of July and the 4th of August.

THE Veterinary Inspectors section meetings are to be held on Tuesday, July 31st, and Wednesday, August 1st, the President and Secretary being Professor Charnock Bradley and Mr. J. R. Hayhurst respectively.

THREE Beit Annual Fellowships for Scientific Research, each worth £175 a year, will be awarded on or about July 16, 1923. Full particulars as to eligibility, etc., can be obtained by application to the Rector, Imperial College, South Kensington, S.W. 7.

HIS Majesty the King and His Royal Highness the Prince of Wales have each been graciously pleased to accept a copy of Mr. Morgan Scott's *Indexed System of Veterinary Treatment*, recently published by Messrs. Baillière, Tindall & Cox.

THE "FIELD" DISTEMPER FUND

("VETERINARY JOURNAL" FOURTH SUBSCRIPTION LIST)

	Annual Subscription. £	s.	d.	Donation. £	s.	d.
Jno. McIntosh, Esq., F.R.C.V.S., F.R.S.E. ..	2	2	0			
T. Salusbury Price, Esq., M.R.C.V.S.				5	5	0
Frederick Trewin, Esq., M.R.C.V.S.	2	2	0			
Mr. J. R. H. Jacobs (per Capt. J. Facer, M.R.C.V.S.)				0	10	6
Bethnal Green Canine Society (per Capt. Hamilton Kirk, M.R.C.V.S.). Third donation				1	4	0
Miss Orr-Ewing				2	2	0
Lady Troubridge (Dixon Collecting Cards) ..				28	19	0
Wm. Jackson Young, Esq., F.R.C.V.S., D.V.S.M.				5	5	0
Dr. A. E. Russell				0	5	0
	4	4	0	43	10	6
Brought forward from last list	72	9	0	34	13	6
Total to date	76	13	0	78	4	0

NOTICES

All communications should be addressed to 8 Henrietta Street, Covent Garden, London, W.C.2. Telephone: Gerrard 4646. Telegrams: "Baillière, Rand, London."

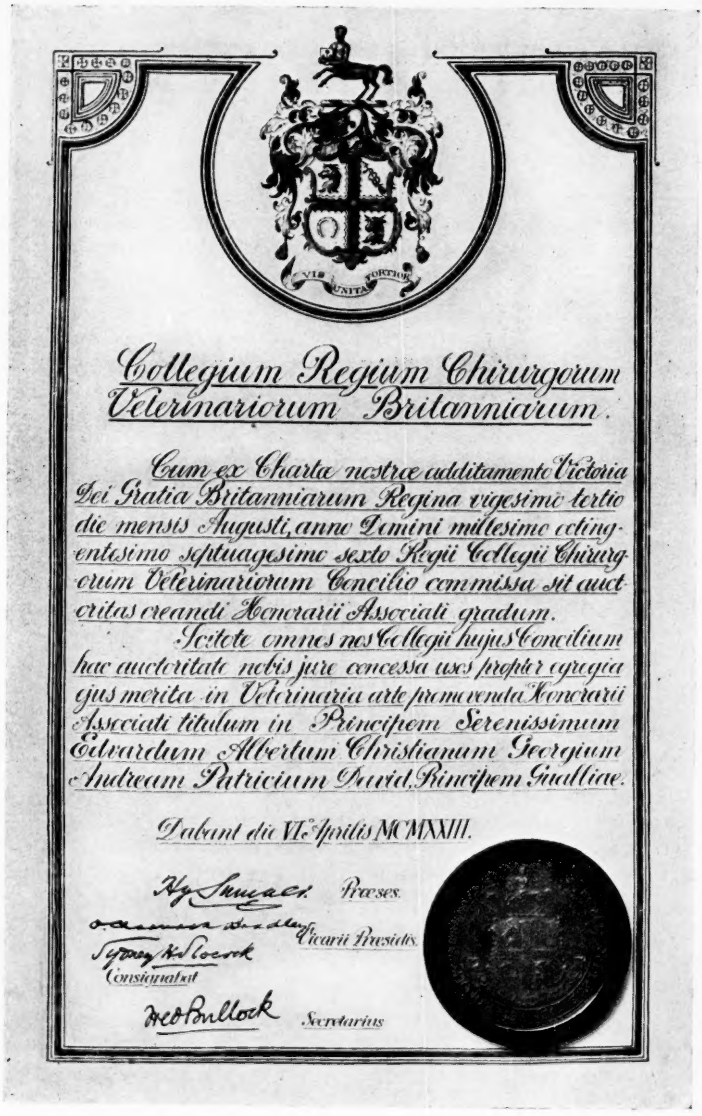
Letters for the JOURNAL, literary contributions, reports, notices, books for review, exchanges, new instruments or materials, and all matter for publication (except advertisements) should be addressed to the Editor.

Manuscript—preferably typewritten—should be on one side only of paper, marked with full name of author.

Illustrations for reproduction should be in good black or dark brown ink on white paper or card.

Copy of advertisements should be in the hands of the publishers—Baillière, Tindall & Cox—not later than the 25th of the month, or if proof is required not later than 23rd.

Annual Subscription, 21s. ($5.00 U.S.A. currency) post free.


VIS UNITA FORTIOR
Collegium Regium Chirurgorum Veterinariorum Britanniarum.
Cum ex Charta nostræ additamento Victoria Dei Gratia Britanniarum Regina vigesimo tertio die mensis Augusti, anno Domini millesimo octingentesimo septuagesimo sexto Regii Collegii Chirurgorum Veterinariorum Concilio commissa sit auctoritas creandi Honorarii Associati gradum.
Sciatis omnes nos Collegii hujus Concilium hac auctoritate nobis jure concessa usos propter egregia ejus merita in Veterinaria arte promovenda Honorarii Associati titulum in Principem Serenissimum Edwardum Albertum Christianum Georgium Andream Patricium David Principem Galliae.
Dabant die VI. Aprilis MCMXXIII.
Præses.
Vicarii Præsidis.
Consignatus
Secretarius

A Reproduction of the Diploma of the Royal College of Veterinary Surgeons, which will shortly be presented to H.R.H. the Prince of Wales.